



FOSTER WHEELER ENVIRONMENTAL CORPORATION

March 27, 1998
File #: 1284-0018-98-0144

Commanding Officer
Northern Division
Naval Facilities Engineering Command
10 Industrial Highway, Mail Stop #82
Lester, PA 19113
Attn.: Code 4023 (S. Lehman)

Subject: US NAVY CONTRACT NO. N62472-94-D-0398
DELIVERY ORDER NO. 0018-06, NAWC WARMINSTER, PA
February, 1998 GROUNDWATER PUMP & TREAT SYSTEM MONTHLY REPORT

Dear Mr. Lehman:

This letter report provides the results of the February, 1998 sampling and the activities performed during the reporting period from February 1, 1998 through February 28, 1998. The groundwater treatment plant operated 99.2% of the reporting period.

As of February 28, 1998 (2400 hours) a total of 1,230,430 gallons of groundwater had been treated during the period from February 1, 1998 through February 28, 1998. This brings the total amount of water treated to 26,398,380 gallons (February 28, 1998). During February, 1998 the average effluent flowrate was 30.8 gpm.

The process water was sampled on February 18, 1998, the results of this sampling are presented in the attached table. This data shows that no discharge limits were exceeded during the February, 1998 reporting period. An additional sample was taken from the Area C influent line sample location, at the request of the Navy, and was analyzed for volatile organic compounds only. The results of this analysis are also presented in the attached table. All volatile organic compounds, in this sample, were below detection limits with the exception of tetrachloroethene (11 ug/l).

During the reporting period there were no system induced shutdowns. The following operator induced shutdowns were made to perform plant maintenance:

02/04/98 - 1000-1330 hrs:	Checked flowmeters of on-line wells. EW-18 was not operating properly. Operator removed EW-18, disassembled, cleaned (iron build up), re-assembled, tested for flow with tap water, and re-installed in well.
02/10/98 - 1100-1145 hrs:	Sand filter air injection tube pulled and cleaned. Re-set to manufacturers specifications.
02/10/98 - 1200-1300 hrs:	Operator reset P39 breaker panel and checked fuses - pump works in "Hand" position. P40 still in operation.
02/13/98 - 1230 hrs:	Testing of paging system with operator induced alarm condition failed. Control & Power Systems, Inc. notified of problem, and will correct.

Additional maintenance items performed:

1. Ran all chemical feed systems with water. (Chemicals are currently not being used in the treatment system).
2. Ran sludge transfer pumps.

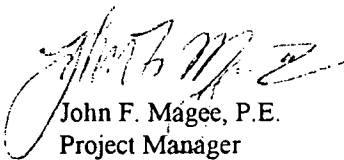
The Tetrachloroethene concentration in the groundwater influent to the system was 11 ug/l (Area C influent), with a total of 0.113 pounds of Tetrachloroethene removed during the February, 1998 reporting period. The total amount of Tetrachloroethene removed through February 28, 1998 is 2.251 pounds.


Calculation:
Average PCE concentration = 11 ug/l
Average water flowrate for month of February, 1998 = 30.8 gpm
Pounds of PCE removed = (30.8 gpm)(40005 min)(11 ug/l)(3.785 l/gal) (1 g / 1,000,000 ug)(1 lb / 454 g) = 0.113lbs PCE

The scheduled dates which Foster Wheeler Environmental's operator will be on-site during the month of April, 1998 are presented in the attached schedule.

If you should have any questions or comments regarding the February, 1998 reporting period, please feel free to contact either me at 215-702-4007 or Dave DiCesare at 215-702-4074.

Sincerely,


John F. Magee, P.E.
Project Manager


David J. DiCesare
Project Engineer

cc: L. Monaco (NORTHDIV)
T. Ames (CSO)
N. Crickman (PADEP)
M. Hunter (CSO)
E. Beatty (ROICC)
A. Flipse (PADEP)
D. Ostrauskas (USEPA)
A. Wills (Bucks Co. Dept. of Health)
D. Fennimore (Earth Data Inc.)
A. Holcomb (FWENC)
File



**Foster Wheeler Environmental Corporation
NAWC, Warminster Groundwater Pump and Treatment Plant
Operator Schedule for April, 1998**

**Wednesday, April 1, 1998
Monday, April 6, 1998
Wednesday, April 8, 1998
Monday, April 13, 1998
Wednesday, April 15, 1998
Monday, April 20, 1998
Wednesday, April 22, 1998
Monday, April 27, 1998
Wednesday, April 29, 1998**



Foster Wheeler Environmental Corporation
NAWC, Warminster - Groundwater Pump and Treat Plant
Sampling Results - February, 1998

FWENC - Sample ID		DO-0018-06-001	DO-0018-06-02	DO-0018-06-003	DO-0018-06-004	DO-0018-06-05	DO-0018-06-06	DO-0018-06-007	
Sample Location		Area C Influent	Equalization Tank Effluent	Inclined Plate Separator Effluent	Sand Filter Effluent	Air Stripper Effluent	Lead Carbon Unit Effluent	Treatment Plant Effluent	Discharge Limits
Sample Date	Method	18-Feb-98	18-Feb-98	18-Feb-98	18-Feb-98	18-Feb-98	18-Feb-98	18-Feb-98	Instantaneous Maximum
Total Discharge (gal.) thru 2/28/98									1,230,430
Average Discharge Flowrate (gpm) for February, 1998									30.8
pH	EPA 150.1	7	7.4	N/A	7.4	N/A	N/A	7.4	6.0-9.0
Total Suspended Solids (mg/l)	EPA 160.2	BDL	BDL	BDL	BDL	N/A	N/A	BDL	75 mg/l
Total Organic Carbon (mg/l)	415.1/EPA600	N/A	BDL	N/A	N/A	N/A	BDL	BDL	-
Carbon Tetrachloride	EPA 8260A	BDL	BDL	N/A	N/A	BDL	BDL	BDL	4.2 ug/l
Tetrachloroethene	EPA 8260A	11	8.8	N/A	N/A	BDL	BDL	BDL	10.0 ug/l
Trichloroethene	EPA 8260A	BDL	BDL	N/A	N/A	BDL	BDL	BDL	42.5 ug/l
Vinyl Chloride	EPA 8260A	BDL	BDL	N/A	N/A	BDL	BDL	BDL	0.27 ug/l
1,1-Dichloroethene	EPA 8260A	BDL	BDL	N/A	N/A	BDL	BDL	BDL	0.85 ug/l
Cadmium	SW846	N/A	BDL	N/A	BDL	N/A	N/A	BDL	4.0 ug/l
Copper	SW846	N/A	BDL	N/A	BDL	N/A	N/A	BDL	24.0 ug/l
Lead	SW846	N/A	5	N/A	6	N/A	N/A	BDL	11.0 ug/l
Zinc	SW846	N/A	37	N/A	49	N/A	N/A	41	157 ug/l
Arsenic	SW846	N/A	BDL	N/A	BDL	N/A	N/A	BDL	0.27 ug/l
Aluminum	SW846	N/A	45	N/A	47	N/A	N/A	61	1875 ug/l
Total Iron	SW846	N/A	158	N/A	232	N/A	N/A	100	3600 ug/l
Total Manganese	SW846	N/A	BDL	N/A	BDL	N/A	N/A	BDL	3750 ug/l
Mercury	SW846	N/A	BDL	N/A	BDL	N/A	N/A	BDL	0.045 ug/l
Total Cyanide (mg/l)	SW846 9010A	N/A	BDL	N/A	BDL	N/A	N/A	BDL	-
Chromium (+6) - (mg/l)	SW846 7196	N/A	BDL	N/A	BDL	N/A	N/A	BDL	23.2 ug/l

NOTES:

1 - All concentrations are in ug/l unless otherwise noted.

N/A - indicates compound was not analyzed for.

BDL - Below Detection Limits